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10/565,807	01/25/2006	Michael Stelter	002664-29	9696

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EXAMINER	
BEST, ZACHARY P	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
02/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/565,807	STELTER, MICHAEL	
	Examiner	Art Unit	
	Zachary Best	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20090817*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FUEL CELL ARRANGEMENT AND DEVICE FOR MOUNTING A FUEL CELL ARRANGEMENT ON A HOUSING

Examiner: Z. Best S.N. 10/565,807 Art Unit: 1795

DETAILED ACTION

1. Applicant's amendment filed October 22, 2009 was received. Claims 1, 9-10, 12 and 16 were amended. Claims 1-16 are currently pending examination.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The rejections under 35 U.S.C. 112, second paragraph of Claim 12 is withdrawn because Claim 12 was amended.

Claim Rejections - 35 USC § 102

4. Claims 1-2, 9-10, 13, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Blanchet (US 2004/0121216 A1).

Regarding Claims 1 and 16, Blanchet teaches a fuel cell arrangement with a fuel cell stack (7) having a plurality of fuel cells (par. 4), and a first and a second end plate (4, 5) which border the fuel cell stack on respective ends of the stack (fig. 1), and at least one energy transmission means which transmits a first force to the first end plate (4) (par. 45) in

the direction toward the second end plate (5) and a second force to the second end plate in a direction toward the first end plate (4) (par. 21), said at least one energy transmission means comprising an elastic means (1), wherein the fuel cell arrangement is connected to the housing by way of an element which is connected to the fuel cell stack using elastic means (figs. 1-2).

Regarding Claim 2, Blanchet teaches the fuel cell stack and end plates have at least one through opening which extends essentially perpendicular to the end plates (fig. 1), wherein in at least one through hole there is an energy transmission element which has an area that projects beyond the first and second end plates (4a, 5a), wherein the energy transmission element has or is connected to a first energy absorption area on the area projecting beyond the first end plate (fig. 5), and wherein the energy transmission element on the area projecting beyond the second end plate has or is connected to a second energy absorption area which applies a force to the second end plate by way of the elastic means (fig. 2).

Regarding Claim 9, Blanchet teaches the fuel cell arrangement comprises a housing which has heat insulation on the inside (par. 20).

Regarding Claim 10, Blanchet teaches the fuel cell arrangement is connected to the housing by way of an element which is connected to the fuel cell stack using elastic means (figs. 1-2).

Regarding Claim 13, Blanchet teaches the elastic means for transmitting force to the end plates is located outside the housing (fig. 1).

Claim Rejections - 35 USC § 103

5. Claims 3-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanchet, as applied to Claims 1-2, 9-10, 13, and 16 above.

Regarding Claim 3, Blanchet teaches the fuel cell arrangement as described in paragraph 4 above, wherein the energy transmission element has an essentially cylindrical segment (3) which is located partially within the through opening (figs. 1-3), and the second energy absorption area (25) is an end ring which surrounds the cylindrical segment and which is connected to the cylindrical segment (fig. 3). Blanchet further teaches the use of bolts (having a cover plate) or threaded rods as tensile members for the compression system (par. 6). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the threaded rod and nut system with a bolt having an end cap for the first energy absorption area (fig. 5) because Blancet teaches the functional equivalency of bolts and threaded rods as tensile members for the compression system.

Regarding Claim 4, Blanchet teaches the elastic means comprises a spring which surrounds the cylindrical region and which is supported on the end ring which surrounds the cylindrical segment (fig. 3).

Regarding Claim 5, Blanchet teaches the spring transmits force to the second end plate by its being supported on spacers (27, movable thrust ring) (par. 30) which surrounds

the cylindrical segment of the energy transmission elements and which is supported on its side facing away from the spring on the second end plate (fig. 3).

Regarding Claim 8, Blanchet teaches the end ring (25) is axially adjustable for varying the force applied by the elastic means (pars. 29 and 32).

Regarding Claim 15, Blanchet teaches the fuel cell arrangement as described above. It is obvious to duplicate parts. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

6. Claims 6-7 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blanchet as applied to Claim 1-5, 8-10, 13, and 15-16 above, and further in view of Barton et al. (US 6,190,793 B1).

Regarding Claim 6, Blanchet teaches the fuel cell arrangement as recited in paragraphs 4 and 6 above. However, Blanchet fails to teach the materials of the energy transmission element.

Barton et al. teach a fuel cell arrangement with a compression system (abstract), wherein the tension member is electrically non-conductive to prevent short circuit (col. 3, lines 1-2 and col. 4, lines 47-52). Therefore, it would have been obvious to one having ordinary skill in the art to create the fuel cell arrangement of Blanchet wherein the energy transmission element is at least predominantly electrically insulating material because Barton et al. teach the tension member is electrically non-conductive to prevent short circuit.

Regarding Claim 7, Blanchet teaches the fuel cell arrangement as recited in paragraphs 4 and 6 above. However, Blanchet fails to teach the materials of the energy transmission element.

Barton et al. teach a fuel cell arrangement with a compression system (abstract), wherein the tension member is metal and there is an insulation means for insulating the energy transmission element against electrically conductive areas of the fuel cell stack or the end plates (col. 2, line 45 – col. 3, line 9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create the fuel cell arrangement of Blanchet wherein the energy transmission element is metal and there is an insulation means because Barton et al. teach the insulation means insulates the energy transmission element against electrically conductive areas of the fuel cell stack or the end plates.

Regarding Claim 11, Blanchet teaches the fuel cell arrangement as recited in paragraphs 4 and 6 above. However, Blanchet fails to teach a cup spring as recited in Claim 11.

Barton et al. teach a fuel cell arrangement with a compression system (abstract) having a plurality of resilient members, which may be a spring plate (415, cup spring) or a coil spring (col. 2, lines 26-44 and col. 3, lines 58-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace one of the springs of Blanchet with a spring plate because Barton et al. teach the functional

equivalency of coil springs and spring plates for compression systems for fuel cell arrangements.

Regarding Claim 12, Blanchet teaches the second energy absorption area comprises multiple rings (25, 24, 26, 27), and Barton et al. suggests a clamping force to grip the tension member (col. 10, lines 25-30). Therefore, it would have been obvious to one having ordinary skill in the art to place the spring plate under a clamping force (e.g., Blanchet 25) and above a spacer (e.g., Blanchet 24 or 27), thereby spacing said spring plate from the other tension members (Blanchet pars. 29-30).

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blanchet as applied to Claim 1-5, 8-10, 13, and 15-16 above, and further in view of Ballantine et al. (US 2003/0044663 A1).

Regarding Claim 14, Blanchet teaches the fuel cell arrangement as recited in paragraphs 4 and 6 above, having insulation surrounding the fuel cell stack within the housing (10). However, Blanchet fails to teach the materials of the insulation.

Ballantine et al. teach a fuel cell system having insulation, wherein the insulation may be fibrous materials in order to provide thermal resistance, structural integrity, and load-supporting capability (par. 41). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create the fuel cell arrangement of Blanchet having fibrous insulation because Ballantine et al. teach fibrous insulation

materials in order to provide thermal resistance, structural integrity, and load-supporting capability.

Response to Arguments

8. Applicant's arguments filed October 22, 2009 have been fully considered but they are not persuasive.

Applicant argues:

(a) The compression system of Blanchet does not provide an energy transmission means to provide a force pushing the first end plate into the direction of the second end plate and a force pushing the second end plate into the direction of the first end plate.

(b) Blanchet, Barton et al. and Ballantine et al. are nonanalogous art which would not be considered by one skilled in the art at the time the invention was made.

In response to Applicant's arguments:

(a) At the outset Examiner stresses that the two opposing forces that Applicant argues is a compressive force regardless as to whether it is caused by elastic means. In Blanchett the force caused by the one end of the rod (3) (see figure 5) which will compress the stack in one direction and a spring (elastic body) on the other end of the rod (see figure 3) which will cause a force in the other direction as the spring (1A) pushes back towards the housing (11) it is elastically connected to.

(b) A prior art reference is analogous if the reference is in the field of Applicant's endeavor or, if not, the reference is reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). In the instant case, Blanchet and Barton et al. both teach a compression system, and both Blanchet and Ballantine teach fuel cell systems. A person skilled in the art would look to both references when deciding on the materials for the fuel cell arrangement of Blanchet when Blanchet is not particular as to the exact materials used in its invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Best whose telephone number is (571) 270-3963. The examiner can normally be reached on Monday to Thursday, 7:30 - 5:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary Best/
Examiner, Art Unit 1795

/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 1795